UNITED STATES DEPARTMENT OF COMMERCE
Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231

SERIAL NUMBER	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
08/697,080	08/20/96	MOURA	E 225013

EXAMINER	
ART UNIT	PAPER NUMBER
2603	#5

26M1/1230

CUSHMAN DARBY AND CUSHMAN
1100 NEW YORK AVENUE NW
NINTH FLOOR EAST TOWER
WASHINGTON DC 20005-3918

DUE ON
MAR 3 0 1997

DATE MAILED: 12/30/96

This is a communication from the examiner in charge of your application.
COMMISSIONER OF PATENTS AND TRADEMARKS

☒ This application has been examined ☐ Responsive to communication filed on _____ ☐ This action is made final.

A shortened statutory period for response to this action is set to expire 3 month(s), 0 days from the date of this letter. Failure to respond within the period for response will cause the application to become abandoned. 35 U.S.C. 133

Part I THE FOLLOWING ATTACHMENT(S) ARE PART OF THIS ACTION:

1. ☒ Notice of References Cited by Examiner, PTO-892.
2. ☒ Notice of Draftsman's Patent Drawing Review, PTO-948.
3. ☒ Notice of Art Cited by Applicant, PTO-1449.
4. ☐ Notice of Informal Patent Application, PTO-152.
5. ☐ Information on How to Effect Drawing Changes, PTO-1474.
6. ☐ _____

Part II SUMMARY OF ACTION

1. ☒ Claims 1-32 are pending in the application.
   Of the above, claims 1-16, 18-25 are withdrawn from consideration.
2. ☒ Claims 1-16 & 18-25 have been cancelled.
3. ☐ Claims _____ are allowed.
4. ☒ Claims 17, 26-32 are rejected.
5. ☐ Claims _____ are objected to.
6. ☐ Claims _____ are subject to restriction or election requirement.
7. ☐ This application has been filed with informal drawings under 37 C.F.R. 1.85 which are acceptable for examination purposes.
8. ☐ Formal drawings are required in response to this Office action.
9. ☐ The corrected or substitute drawings have been received on _____. Under 37 C.F.R. 1.84 these drawings are ☐ acceptable; ☐ not acceptable (see explanation or Notice of Draftsman's Patent Drawing Review, PTO-948).
10. ☒ The proposed additional or substitute sheet(s) of drawings, filed on 8-20-96 has (have) been ☒ approved by the examiner; ☐ disapproved by the examiner (see explanation).
11. ☐ The proposed drawing correction, filed _____, has been ☐ approved; ☐ disapproved (see explanation).
12. ☐ Acknowledgement is made of the claim for priority under 35 U.S.C. 119. The certified copy has ☐ been received ☐ not been received ☐ been filed in parent application, serial no. _____; filed on _____.
13. ☐ Since this application apppears to be in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under Ex parte Quayle, 1935 C.D. 11; 453 O.G. 213.
14. ☐ Other

PILLSBURY MADISON & SUTRO
RECEIVED
DEC 3 1 1996
WASHINGTON, D.C.

EXAMINER'S ACTION

PTOL-326 (Rev. 2/93)

Part III DETAILED ACTION

Drawings

1. This application has been filed with informal drawings which are acceptable for examination purposes only. Formal drawings will be required when the application is allowed.

Information Disclosure Statement

2. The information disclosure statement filed 8-20-96 fails to comply with 37 CFR § 1.98(a)(2), which requires a legible copy of each U.S. and foreign patent; each publication or that portion which caused it to be listed; and all other information or that portion which caused it to be listed. It has been placed in the application file, but the information referred to therein has not been considered as to the merits.

Claim Objections

3. Although applicants claims 17 and 26-32 meet the requirement of 112/2d, i.e. the metes and bounds are determinable, the grammar and syntax could be improved. Examples are in claim 17 lines 8-9 and claim 26 line 23 which recite "said second transmit queue" lacks clear antecedent basis because no second transmit queue has been previously recited in the claim. In claim 27 lines 16-17, claim 29 line 1, and claim 31 line 3, which recite

"said received data packet" lack clear antecedent basis. In claims 28-31 line 1, delete "A method" and insert ---The method--- for clarity. In claim 26 line 17 which recite "a transmit queue" is not clear as to whether it is reciting ---said transmit queue--- of line 15 or ---a second transmit queue--- or what. It is in the best interest of the patent community that applicant, in his/her normal review and/or rewriting of the claims, to take into consideration these editorial situations and make changes as necessary.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. § 103 which forms the basis for all obviousness rejections set forth in this Office action:

> A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.
>
> Subject matter developed by another person, which qualifies as prior art only under subsection (f) or (g) of section 102 of this title, shall not preclude patentability under this section where the subject matter and the claimed invention were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. § 103, the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered

therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 C.F.R. § 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of potential 35 U.S.C. § 102(f) or (g) prior art under 35 U.S.C. § 103.

5. Claims 17 and 26-32 are rejected under 35 U.S.C. § 103 as being unpatentable over Safadi in view of Newman and further in view of Gleeson et al.

Safadi discloses nearly all the subject matter claimed. Note col. 6 lines 24-44 which recite the frequency spectrum of the physical medium from the headend 18 to the STTs 16 is divided into a downstream signal path originating at the headend 18 and an upstream signal path originating at the STTs 16 whereby the bandwidth of the physical medium in the preferred embodiment extends up to 1 GHz, the downstream bandwidth typically employs frequencies above 50 MHz, and the upstream frequencies below 50 MHz clearly anticipate providing a shared medium via the high-speed downstream channel and the lower speed upstream channels for sending upstream data as in claims 26 and 27. Column 2 lines 3-18 which recite the transmit queue within the settop terminal whereby a cycle is initiated periodically by the network controller to empty the transmit queue and col. 14 line 54 to col. 15 line 2 which recite the non-volatile random access memory RAM 122 comprising an existing protocol syntax processor 128

(PSP), an adaptive protocol processor 130 (APP), a memory manager 132, and a transmit queue 134 clearly anticipate the step transmitting data from an upstream the transmit queue of the first node with a first information packet as in claims 17, 26, and 27. Col. 5 line 20 and col. 6 lines 45-67 which recite using the internet protocol IP clearly anticipate the header being a TCP header as in claim 32. Col. 10 line 52 to col. 11 line 11 which recite the network controller 62 routing information such as acknowledgments to upstream transmitted packets, through the appropriate QPSK mux/mod 58 or QAM mux/mod 52, i.e. the medium access control acknowledgment messages and information are forwarded to the STTs 16 over Ethernet, clearly anticipate the step of transmitting acknowledgments to a transmitter node.

Safadi did not teach a receiver node wherein the receiver node includes a transmit queue as in claims 17, 26, and 27 and the step of removing redundant acknowledge packets include the step of comparing the header of the received packet with headers in the transmit queue as in claims 17, 26, and 27.

Mistake! — confusion of SN 08/697,920 & claim as filed, claim [illegible]

Newman et al. teach that it is known to provide 128 bytes of on-chip RAM whereby 36 are utilized for front, rear, receive and transmit queue pointers the front and rear queue pointer for each receive and transmit queue whereby receive and transmit queues are allocated for each SLU port and the command queue to the PR box, including eight ports and one command channel, thus, there

are 18 queues and 36 pointers as set forth at column 11 line 41 to col. 12 line 2 in the field of multiplex communication for the purpose of operationally receiving and transmitting data between peripherals and host which clearly anticipate a receiver node wherein the receiver node includes a transmit queue as in claims 17, 26, and 27. Col. 13 lines 39-47 which recite the step of comparing the queue pointers to determine empty status clearly anticipate the step of comparing the header of the received packet with headers in the transmit queue as in claims 17, 26, and 27.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide a receiver node wherein the receiver node includes a transmit queue as taught by Newman to the system of Safadi because Newman teaches the desirable advantage of a simpler design of a peripheral repeater box for establishing data protocols and connecting a plurality of different type peripherals using the same type of plug and the feature of using said same type of plug being desirable in order to achieve both simple, trouble-free and efficient system operation in Safadi.

Safadi in view of Newman did not teach the steps of inserting the acknowledge packet into said transmit queue and removing or eliminating redundant acknowledge packets as in claims 27 and 17 and the step of filling open transmit queue spaces with additional data as in claims 17, 26, and 28. Safadi

in view of Newman did not teach each data packet containing an indication of the last data item of the stream of data items as in claim 29 and wherein the indication is contained in a header for that packet as in claim 30.

Gleeson et al. teach that it is known to provide the processes of manipulating raw data bit stream and transform it into a data stream that appears free of transmission errors whereby the task is accomplished by breaking the transmitted data into data frames and transmitting the frames sequentially and whereby the transport layer processes accept a data stream from a session layer, split it up into smaller units (if necessary), pass these smaller units to the network layer, and to provide mechanisms to ensure that the units all arrive correctly at the destination with no sequencing errors, duplicates or missing data as set forth at column 2, lines 17-37 in the field of multiplex communication for the purpose of connecting a node to a wireless network using standard protocols which clearly anticipate each data packet containing an indication of the last data item of the stream of data items as in claim 29 and wherein the indication is contained in a header for that packet as in claim 30. Fig. 15 which shows the acknowledge number 1534 at the data packet header clearly anticipate the step of inserting the acknowledge packet into said transmit queue. Column 3, lines 44-68 which recite the step of filtering and discarding some protocol packets,

generating and "synthesizing" the reception of other protocol packets, and removing and transforming protocol header fields so that an optimized protocol stream can be transmitted over the wireless WAN without seriously affecting WAN efficiency and col. 14 lines 17-31 which recite the conventional wireless header 1200 comprising various type codes, format codes, acknowledgement indicators, header bytes and control bytes whereby these values are set by the optimization layer to appropriate values clearly anticipate the step of removing redundant acknowledge packets as in claim 27. Col. 21 lines 4-28 which recite the buffer queue storing data packets for processing whereby when a data packet is placed in the queue, a semaphore is set, by a program placing the data packet in the queue, whereby the semaphore flag in turn is examined by the associated thread and when the semaphore is set, causes the associated thread to begin processing the data packets in the buffer queue and col. 21 lines 29-41 which recite that it is possible that there may be more than one queue for each semaphore associated with a thread, i.e. for the transmission manager (TXMgr) semaphore, there is a queue for outgoing NP packets and another queue for incoming wireless PDU acknowledgements anticipate the step of filling open transmit queue spaces with additional data as in claims 17, 26, and 28.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide the steps of inserting the acknowledge packet into said transmit queue and removing or eliminating redundant acknowledge packets, the step of filling open transmit queue spaces with additional data, whereby each data packet containing an indication of the last data item of the stream of data items and wherein the indication is contained in a header for that packet as taught by Gleeson et al. to the system of Safadi in view of Newman because Gleeson et al. teach the desirable advantage of connecting a node to a wireless network using a standard protocol including reducing the number of packets, header size and amount of data sent to minimize traffic in order to achieve efficient system operation in Safadi in view of Newman.

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Dickson discloses a voice over data communication system.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shick Hom whose telephone number is (703) 305-4742.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 305-4750.

Douglas W. Olms

DOUGLAS W. OLMS
JPERVISORY PATENT EXAMINER
ART UNIT 263

SH
December 11, 1996